Review of: "Relationship between In Vitro Physical Properties and In Situ Biofilm Formation of Fissure Sealants"

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Potential competing interests: No potential competing interests to declare.

Dear Authors, a very interesting idea for an article comparing the behavior of these small materials in vitro and in vivo. My congratulations.

The problem of biofilm formation is a very important issue in dentistry, which is why every article on this subject is highly desirable.

Abstract;

The abstract is the most important part of the article because others read the abstract first, and if they are interested, they quote your work. Therefore, in this part, it is worth including numerical results, such as the hardness of the enamel, e.g., and other values obtained during your tests.

Introduction

When it comes to various methods of controlling biofilm, it is worth mentioning that CHX has discoloring properties, see e.g.:

Raszewski Z, Nowakowska-Toporowska A, Weżgowiec J, Nowakowska D. Design and characteristics of new experimental chlorhexidine dental gels with anti-staining properties. Adv Clin Exp Med. 2019 Jul;28(7):885-890. doi: 10.17219/acem/94152. PMID: 30888120.

Bioactive glasses also have a similar inhibitory effect.

Drago L, Toscano M, Bottagisio M. Recent Evidence on Bioactive Glass Antimicrobial and Antibiofilm Activity: A Mini-Review. Materials (Basel). 2018 Feb 24;11(2):326. doi: 10.3390/ma11020326. PMID: 29495292; PMCID: PMC5849023.

And what hypotheses do your researchers have? What results do you expect? What prompted you to conduct this research?

Materials and methods

Three dental sealant materials (2 resins: Helioseal F (K1), Ultraseal XT Hydro (K2), and 1 glass ionomer: Fuji Triage Capsule (Ci)), human molar enamel samples (E), and hydroxyapatite discs (pressing biomimetic hydroxyapatite BHAP) were used in this in vitro and in situ combined study. - Producer of the materials, city, country?

Microhardness Tester (Shimadzu), Dektak 6M Profilometer (Veeco), CAM 200 (KSV NIMA) - city, country?

It would be worth adding a block diagram of your research to show how much work you put into this research. Thank you.

Results

Table 1, Table 5

Microhardness unit?, Contact Angle unit. Please add to the table and to the main text.

Discussion

Elliot et al [18] focused on the biofilm development on the HAP-coated glass surface and the plain glass surface and reported that there was no difference between the two surfaces. But in our ref [18] is:

Xu X, Chen X, Li J. Natural protein bioinspired materials for regeneration of hard tissues. J Mater Chem B. 2020;8(11):2199-2215.

I like a well-presented discussion!

Good luck in further research!